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## 5. Testing for Physical Hazards

### Introduction

You should already have learned how to test the poles for electrical hazards. This lesson describes the different types of physical testing to check the stability of a pole and explains how to handle defective poles. It also teaches you how to conduct pre- and post-climbing checks so that you are aware of anything that may affect your climbing.

### Importance

It is important that you test a pole before climbing it. An unsafe pole can crack and cause injuries.

### Objectives

After completing this lesson, you will be able to:

- Describe when poles need to be tested
- Test a pole for damage using the prod and sound tests
- Test a pole for stability using the handline test
- Test a pole for stability using the pike pole test
- Tag a defective pole
- Perform pre- and post-climbing checks for climbing poles

### Prerequisites

Prior to beginning this lesson, you **must** complete the following lessons:

- Personal Protection
- Job Hazard Pre-Survey
- Checking for Electrical Hazards

### Outline

This lesson includes the following topics:

- Poles Conditions for Testing
- Prod and Sound Tests
- Handline Test
- Pike Pole Test
- Handling Defective Poles
- Pre- and Post-Climbing Checks

## Pole Conditions for Testing

### Introduction

Not only it is important that we climb poles in a safe manner, but it is also important that we climb safe poles. This topic describes the physical hazards you need to look out for when climbing poles and when to test it for safety.

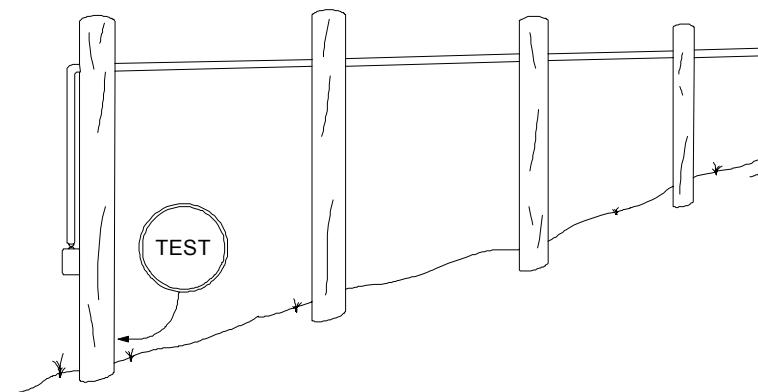
You **must** check to make sure that the pole line structure has adequate strength to support the load resulting from working aloft and the load that will result from the proposed work operations. If the strength of the pole line structure is in doubt, temporary or permanent supports **must** be applied before starting work.

Heavy unbalanced loads, such as those caused by placing or removing conductors or strands under tension at un-guyed poles or inadequately guyed corners or dead-ends, may cause a pole in good condition to fail. Therefore, it is important to plan the work operations so the poles are **not** subjected load that are too heavy or unbalanced. The use of guys or braces provides a means of preventing excessive unbalanced loads.

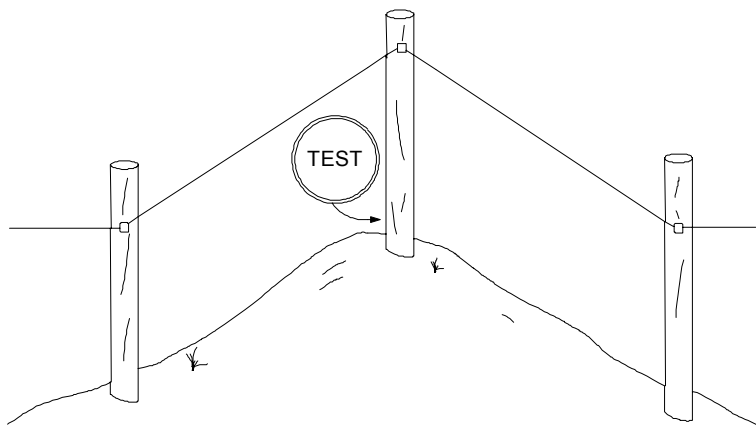
**Remember:** All poles **must** be tested prior to climbing or placing a ladder against.

You may want to pay special attention to all vacant poles or poles with drop wires. An end pole in a line, even though head-guyed, should always be examined and tested before climbing since the guy and the end-spans do **not** contribute any stability to the pole in a direction across the line.

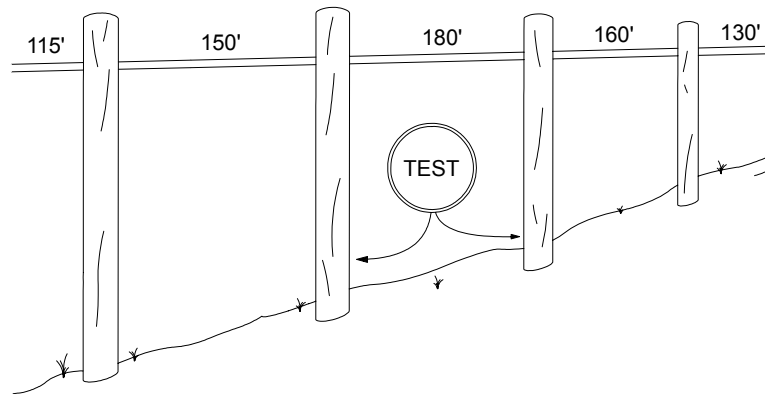
You must pay special attention when testing the poles with the following conditions:



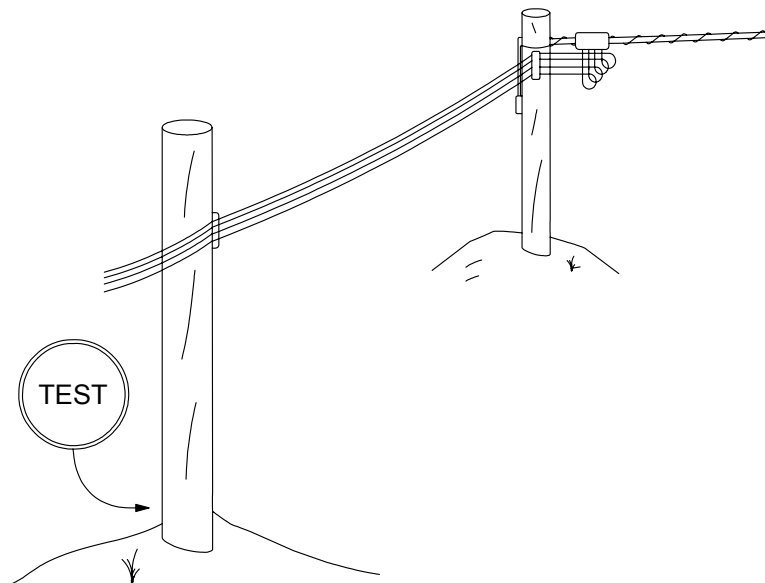
**Dead-end poles with no lateral support**



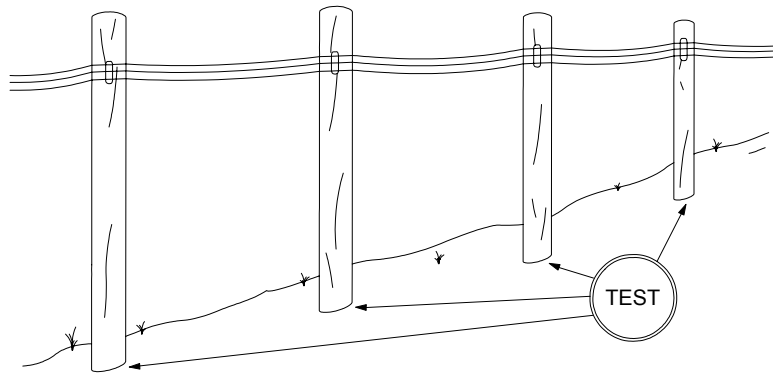
**Downward changes in grade with no lateral support**



**Span of cable between the poles is too long (165 feet or more)**



**Drop wire spot poles**



**Poles carrying a small number of wires**



List 5 conditions of the poles where you would pay special attention when testing them.

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**Task:** Group activity

**Time allocated:** 15 minutes

**Instructions:** Divide the class into groups of 3 and instruct the groups to complete the practice item.

**Correct answers:**

- Dead end poles with no lateral support
- Downward changes in grade with no lateral support
- Span of cable between the poles is too long (165 feet or more)
- Drop wire spot poles
- Poles carrying a small number of wires

**Group review:** After the allocated time, ask the groups for their answers and list them on a blackboard.

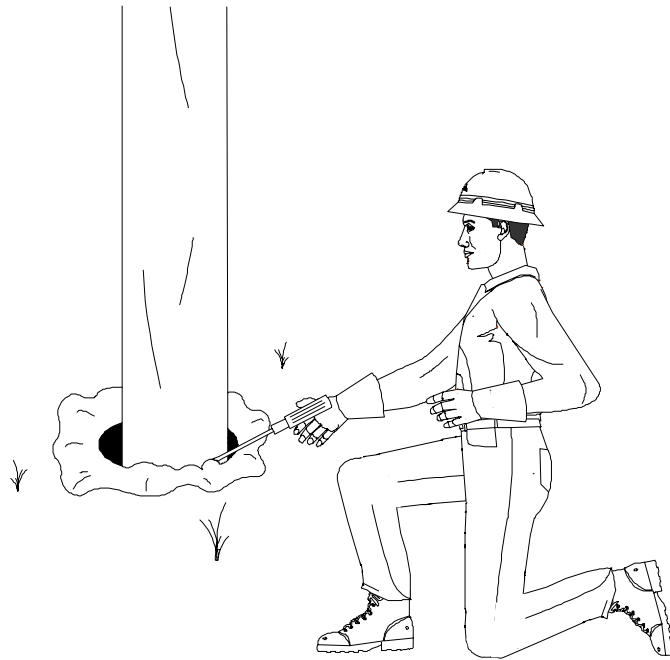


## Prod and Sound Tests

### Introduction

This topic describes how to test a pole for damage using the prod and sound tests.

### Prod Test



### Performing the prod test using a long screwdriver

The prod test enables you to check the condition of the pole at or below the ground line using a pole prod or a 5-inch blade or longer screwdriver.

Step	Action
1	If possible, remove dirt from around the pole since the area of maximum decay is from ground line to 12 inches below the surface.
2	Hold the prod at a 45-degree angle and thrust the blade against the surface of the pole below the ground line.
3	Continue this until you completely circle the pole. Decayed wood will be indicated if the prod tip penetrates the surface of the pole.



ACTIVITY

Check the condition of a pole at and below ground level using the prod test.

**Task:** *Individual activity*

**Time allocated:** 15 minutes

**Instructions:** *Instruct the class to check the condition of the pole using the prod test. Make sure that every student has a pole prod or a 5-inch blade or longer screwdriver and a pole to practice on.*

**Correct answer:**

*The student should:*

- *Remove dirt from around the pole*
- *Hold the pole prod or 5 inch screwdriver at a 45-degree angle and thrust the blade against the surface of the pole below the ground line*
- *Continue this until they have completely circle the pole*

**Group review:** *Explain the procedure.*

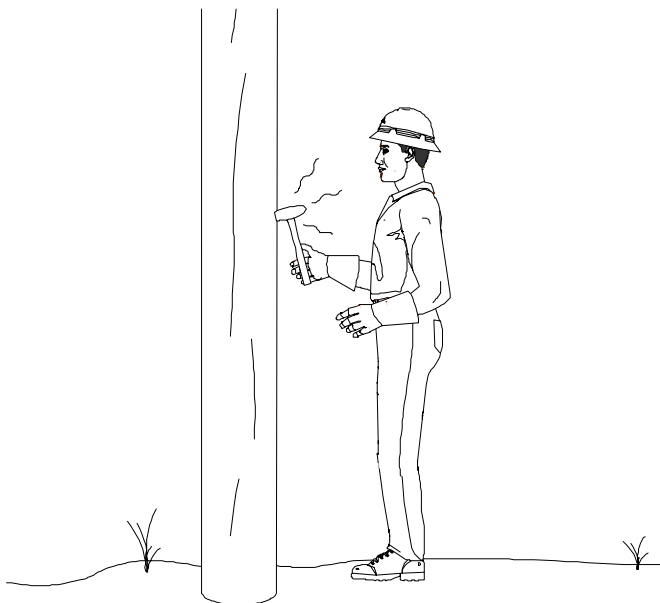
- *You remove dirt from around the pole because the area of maximum decay is from ground line to 12 inches below the surface.*
- *When you hold the prod or 5-inch screwdriver at a 45-degree angle and thrust the blade against the surface of the pole against the surface of the pole below the ground line, any decayed wood will be exposed if the prod tip penetrates the surface of the pole.*

## Sound Test

*Note to Instructor:*

*If examples are available,  
you should demonstrate the  
sounds:*

- *Chemical treated pole*
- *Hollow or decayed pole*
- *A pole free from decay*
- *Wet pole*
- *A pole with wide cracks*
- *A pole with a weather check*



### Performing the sound test using a lineman hammer

The sound test is used in conjunction with the prod test. It tests the condition of the pole above the ground line.

Step	Action
1	Beginning at ground level, use a lineman hammer (weighing at least three pounds) to strike the pole sharply and squarely, and test all around the pole.
2	Continue testing all around the pole while moving up to a point as high as you can comfortably reach.

### Safety Precautions

- You should wear splash-proof goggles when performing the sound test on chemically treated poles.
- A hollow or decayed pole will give off a dull or hollow sound when hit.
- A pole free of decay will sound clear and the hammer usually rebounds noticeably.

- Wet surfaces due to recent rains, wet interior near the ground line due to high soil moisture, wide cracks, or weather checks in the pole near the surface may change the sound of a solid pole. Do **not** mistake the altered sound due to these causes for the sound associated with internal decay.



ACTIVITY

Using the sound test, test the condition of a pole.

**Task:** Individual activity

**Time allocated:** 15 minutes

**Instructions:** Instruct the class to check the condition of the pole using the sound test. Make sure that every student has a lineman hammer and a pole to practice on.

**Correct answer:**

- Beginning at ground level, use a lineman hammer (weighing at least three pounds) to strike the pole sharply and squarely, and test all around the pole.
- Continue testing all around the pole while moving up to a point as high as you can comfortably reach.

**Group review:** Demonstrate the procedure.

## Handline Test

### Introduction

This topic describes how to test a pole for damage or stability using the handline test.

The handline test is required when you are **not** certain that the prod and sound test provides you an accurate result.

### Safety Precautions

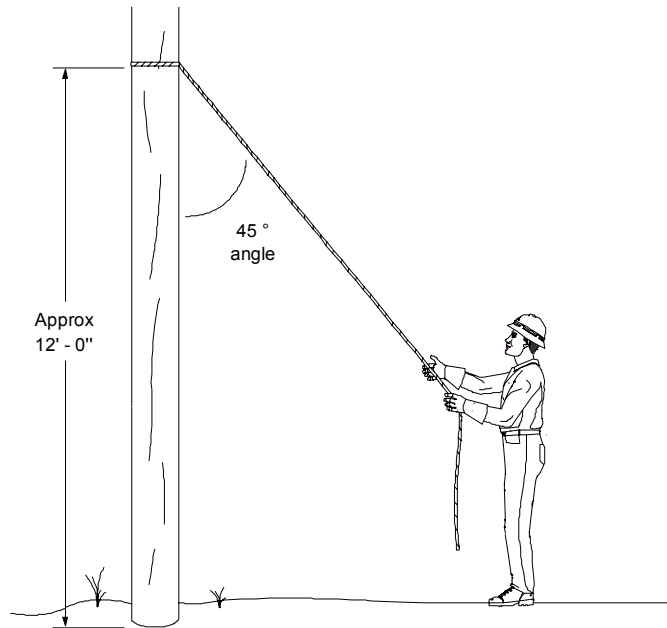
Do **not** apply this test if damage to property, contact between power wires and telephone plant, or some other hazardous situation, could result when the pole breaks.

Exercise the following precautions when performing the handline test:

- Test on poles where power is **not** attached
- The handline test **cannot** effectively be applied to poles that have attachments, such as wires, guys, or push braces, arranged in such a manner as to take the pressure of the handline, rather than permitting the pressure to be transferred directly to the pole. Some locations where these conditions are encountered are guyed corner poles, junction poles, or side storm guyed poles
- Many of the small poles in suburban or rural areas carrying eight wires or less, have sufficient strength from a service standpoint, but can be broken by applying the handline test too vigorously. In applying the test to such poles, exercise reasonable care to prevent breaking those that are in serviceable condition and can be climbed safely
- Pavement or frozen ground surrounding poles sometimes tends to hold poles firmly, even though they may be badly deteriorated. Where such conditions exist, it is usually desirable to apply temporary supports to the pole, if there is any question as to the soundness of the pole
- If the pole cracks or breaks as you are conducting the handline test, stop the test immediately and consider the pole unsafe for climbing

## How to Perform a Handline Test

The handline test is applied by making a vigorous effort to rock the pole back and forth.



### Performing the handline test

Step	Action
1	Loop the handline (3/8 inch or larger) around the pole about 12 feet above ground. When attaching the handline do <b>not</b> climb the pole. Either throw the handline over a fixed attachment or tie a timber hitch in the rope and raise it into position using a convenient tool, such as a wire-raising tool.
2	Pull rope at a 45-degree angle to the pole, rocking the pole back and forth.



Check the condition of a pole using the handline test.

**Task:** Individual activity

**Time allocated:** 15 minutes

**Instructions:** Instruct the class to complete the practice item. Every student should have a handline and a safe pole.

**Correct answer:**

- Loop the handline (3/8 inch or larger) around the pole about 12 feet above ground
- Pull rope at a 45-degree angle to the pole, rocking the pole back and forth

**Group review:** After the allocated time, demonstrate the procedure to the class and review the following precautions with the class.

- If the pole cracks or breaks, stop the test immediately and consider the pole unsafe for climbing
- It is permitted only on poles where power is **not** attached
- The handline test **cannot** effectively be applied to poles that have attachment such as wires, guys, or push braces
- When applying the test to small poles in suburban or rural areas that carry eight wires or less, exercise reasonable care to prevent breaking those that are in serviceable condition and can be climbed safely
- If the pole is surrounded by pavement or frozen ground and there is any question as to the soundness of the pole, apply temporary supports to the pole

## Pike Pole Test

### Introduction

This topic describes how to test a pole for damage or stability using the pike pole test.

The pike pole test is an alternative to the handline test. It is required when you are **not** certain that the prod and sound tests provide you an accurate result.

### Safety Precautions

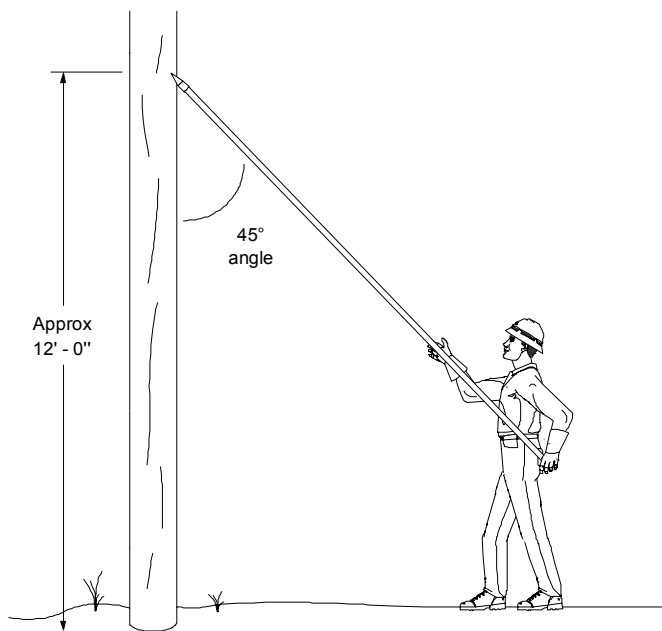
Do **not** apply this test if damage to property, contact between power wires and telephone plant, or some other hazardous situation, could result when the pole breaks.

Exercise the following precautions when performing the pike pole test:

- Test on poles where power is **not** attached.
- The pike pole test **cannot** effectively be applied to poles that have attachment such as wires, guys, or push braces, arranged in such a manner as to take the pressure of the pike pole, rather than permitting the pressure to be transferred directly to the pole. Some locations where these conditions are encountered are guyed corner poles, junction poles, or side storm guyed poles.
- Many of the small poles in suburban or rural areas, carrying eight wires or less have sufficient strength from a service standpoint, but can be broken by applying the pike pole test too vigorously. In applying the test to such poles, exercise reasonable care to prevent breaking those that are in serviceable condition and can be climbed safely.
- Pavement or frozen ground surrounding poles sometimes tends to hold poles firmly, even though they may be badly deteriorated. Where such conditions exist, it is usually desirable to apply temporary supports to the pole, if there is any question as to the soundness of the pole.
- If the pole cracks or breaks as you are conducting the pike pole test, stop the test immediately and consider the pole unsafe for climbing.



## How to Perform a Pike Pole Test



### Performing the test using a pike pole

Step	Action
1	Standing with your body parallel with the pike pole, put your hand over the end of the pike pole and use your other hand to steady the pike pole.
2	Insert the sharp end of the pike into the pole approximately 12 feet from the ground at a right angle to the wires or cable on the pole.
3	Holding the pike pole at a 45-degree angle, push the pole away from you a few times. If the pole cracks or breaks, stop the test immediately and consider the pole unsafe for climbing.



ACTIVITY

Check the condition of a pole using the pike pole test to determine whether it is safe to climb.

**Task:** Individual activity

**Time allocated:** 15 minutes

**Instructions:** Instruct the class to complete the practice item. Every student should have a pike pole and a safe pole.

**Correct answer:**

- Standing with your body parallel with the pike pole, put your hand over the end of the pike pole and use your other hand to steady the pike pole
- Insert the sharp end of the pike into the pole approximately 12 feet from the ground at a right angle to the wires or cable on the pole
- Holding the pike pole at a 45-degree angle, push the pole away from you a few times. If the pole cracks or breaks, stop the test immediately and consider the pole unsafe for climbing.

**Group review:** After the allocated time, demonstrate the procedure to the class and review the following precautions with the class:

- It is permitted only on poles where power is **not** attached
- The pike pole test **cannot** be applied to poles that have attachment such as wires, guys, or push braces
- When applying the test to small poles in suburban or rural leads that carry eight wires or less, exercise reasonable care to prevent breaking those that are in serviceable condition and can be climbed safely
- If the pole is surrounded by pavement or frozen ground and you have doubts on the soundness of the pole, apply temporary supports to the pole

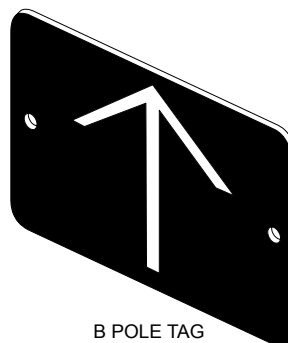
## Handling Defective Poles

### Introduction

When you have checked a pole and determined that it is unsafe, you need to mark the pole. This will let other technicians know that the pole has been inspected and deemed unsafe to climb. This topic describes how to handle a pole that is defective.

When you inspected a pole and found to be unsafe to climb, you **must** mark it immediately with a B or C pole tag.

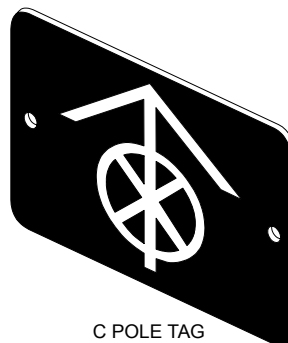
### B Pole Tags



B POLE TAG

The B pole tag is used on defective poles **not** requiring immediate replacement. It has a white arrow on a red background

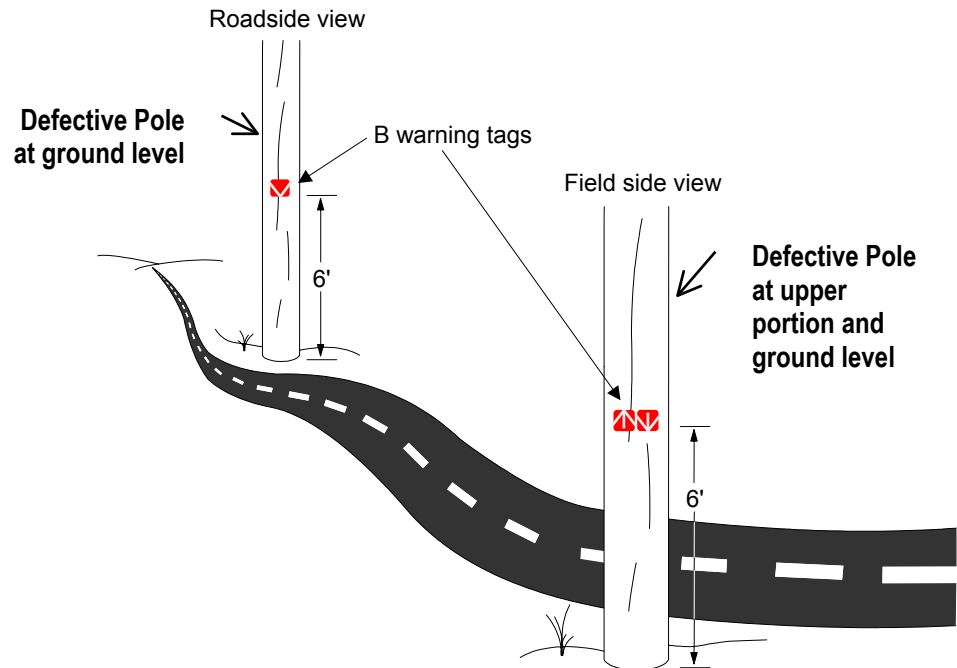
### C Pole Tags



C POLE TAG

The C pole tag is used on defective poles that are in a dangerous condition and require immediate replacement. The tag is similar to the B pole tag except it has an X in a circle embossed on the shaft of the arrow.

## Pole Tag Placement



### Placing pole tags on defective poles

Step	Action
1	Place two tags on the pole, one on the roadside and one on the field side, approximately six feet from the ground line. The arrows should be pointed in the direction of the defect.
2	If the pole is defective at the ground line <b>and</b> upper portion of the pole, place a double set of tags, one pointing up, and one pointing down. Then, notify your supervisor about the defective pole.

Where a pole appears to be defective and is **not** tagged the technician is required to report the pole for inspection.

The presence or absence of these pole tags does **not** act to relieve you of the responsibility for taking appropriate precautions before climbing and/or commencing any work operation on a pole.

## Tag Ordering

- The B Tag ordering material code is 918613 or ordering number is 400 290 516
- The C Tag ordering material code is 918614 or ordering number is 400 290 524



Let's suppose a pole has defects at the ground line and on the upper portion but does **not** require immediate attention. Ask students to describe which tags to be used and how to attach them.

**Task:** Individual or pair activity

**Time allocated:** 15 minutes

**Instructions:** Instruct the class to complete the practice item. If there aren't enough poles or tags for students to complete the practice individually, divide the class into pairs. Both B and C tags should be available to the students. Inform them which side of the pole is facing the road and which is facing the field.

**Correct answer:** The student should tag the pole with two sets of B tags approximately six feet from the ground line.

- One set should be facing the road and have two B tags – one pointing up and one pointing down
- Another similar set should be facing the field and have two B tags – one pointing up and one pointing down

### Group review:

- Remind the class that:
- They need to inform their supervisor after they've tagged the pole
- The presence or absence of these pole tags does **not** act to relieve them of the responsibility for taking appropriate precautions before climbing and/or commencing any work operation on a pole

## Pre- and Post-Climbing Checks


### Introduction

This topic describes how to perform a pre-climbing check before climbing a pole and a post-climbing check after working on a pole.

The following is a general list of the pre- and post-climbing checks that are to be made in order for you to be aware of anything that may affect your climbing.

These checks should be made before ascending, while climbing or working, and after descending.

### Pre-Climbing Check


Pre-Climbing Check	
What to Look For	What to Do
Defective Equipment	
Body belt	Replace
Safety strap	
Climbers	
Eye protection	
Hardhat	
Safety footwear	
Detachable pole steps or a butt pole ladder (New England region)	
 REGIONAL	
Area Conditions	
Traffic and pedestrians	Remove or correct when possible  Exercise caution
Ground debris	
Animals, insects	
Nearby obstructions	
Electrical hazards on poles containing power	

Pre-Climbing Check	
What to Look For	What to Do
Pole Conditions	
Deterioration	Remove, correct, or report as appropriate  <b>Do not climb until corrected</b>
Foreign attachments	
Improper hardware attachments (for example, bent steps)	
Electrical hazards	
Limbs, vines, insects	
High side of pole, if leaning	
Equipment Selection	
Personal Protective Equipment: <ul style="list-style-type: none"><li>• Eye protection</li><li>• Hardhat</li><li>• Hand Protection</li><li>• Safety Footwear</li><li>• Long sleeves and long pants</li></ul>	Determine items needed and select before going to pole
Climbing Equipment: <ul style="list-style-type: none"><li>• Body belt and safety strap</li><li>• Climbers (for unstepped poles)</li></ul>	
Testing equipment (as appropriate): <ul style="list-style-type: none"><li>• Insulating and leather protector gloves</li><li>• Voltage detector</li><li>• 5-inch blade or longer screwdriver</li><li>• Lineman or at least 3 pound hammer</li></ul>	
Pole Approach	
Walking to pole area	Wear PPE
Transferring equipment	Carry all equipment
Observing conditions	Remove debris from step-off area



ACTIVITY

Perform a pre-climbing check using the pre-climbing checklist provided.

Pre-Climbing Check	
What to Look For	What to Do
Defective Equipment	
Body belt	Replace
Safety strap	
Climbers	
Eye protection	
Hardhat	
Safety footwear	
Detachable pole steps or a butt pole ladder (New England region) <div> REGIONAL</div>	
Area Conditions	
Traffic and pedestrians	Remove or correct when possible  Exercise caution
Ground debris	
Animals, insects	
Nearby obstructions	
Electrical hazards on poles containing power	
Pole Conditions	
Deterioration	Remove, correct, or report as appropriate  Do not climb until corrected
Foreign attachments	
Improper hardware attachments (for example, bent steps)	
Electrical hazards	
Limbs, vines, insects	
High side of pole, if leaning	



Pre-Climbing Check	
What to Look For	What to Do
Equipment Selection	
Personal Protective Equipment: <ul style="list-style-type: none"><li>• Eye protection</li><li>• Hardhat</li><li>• Hand Protection</li><li>• Safety Footwear</li><li>• Long sleeves and long pants</li></ul>	Determine items needed and select before going to pole
Climbing Equipment: <ul style="list-style-type: none"><li>• Body belt and safety strap</li><li>• Climbers (for unstepped poles)</li></ul>	
Testing equipment (as appropriate): <ul style="list-style-type: none"><li>• Insulating and leather protector gloves</li><li>• Voltage detector</li><li>• 5-inch blade or longer screwdriver</li><li>• Lineman or at least 3 pound hammer</li></ul>	
Pole Approach	
Walking to pole area	Wear PPE
Transferring equipment	Carry all equipment
Observing conditions	Remove debris from step-off area

**Task:** Individual activity

**Time allocated:** 20 minutes

**Instructions:** Instruct the students to conduct a pre-climbing check using the pre-climbing checklist as a guide.

**Correct answer:** The student should check every item listed in the checklist.

**Group review:** review the checklist to ensure that the students did **not** miss any item on the checklist.

### Post-Climbing Check

Post-Climbing Check	
What to Look For	What to Do
<b>Pole Conditions</b>	
Changes that may have occurred since pre-climbing check	Visually check for self-awareness and avoid hazards
<b>Area Conditions</b>	
Tools and equipment	Collect tools and materials
Wire clippings	Clean up area
Conditions observed in pre-climbing check	Avoid unsafe conditions
<b>Equipment Maintenance</b>	
Damage to climbers and equipment during use	Inspect, repair, or return for replacement
Damage to tools during use	
<b>Equipment Storage</b>	
All items previously removed from truck	Return to proper storage compartment

### Safety Precautions

The following are actions you should practice:

- **Never** use defective equipment
- Do **not** climb until unsafe conditions are corrected
- Do **not** walk outside the step-off area with climbers on.



Perform a post-climbing check using the post-climbing checklist provided.

Post-Climbing Check	
What to Look For	What to Do
<b>Pole Conditions</b>	
Changes that may have occurred since pre-climbing check	Visually check for self-awareness and avoid hazards
<b>Area Conditions</b>	
Tools and equipment	Collect tools and materials
Wire clippings	Clean up area
Conditions observed in pre-climbing check	Avoid unsafe conditions
<b>Equipment Maintenance</b>	
Damage to climbers and equipment during use	Inspect, repair, or return for replacement
Damage to tools during use	
<b>Equipment Storage</b>	
All items previously removed from truck	Return to proper storage compartment

**Task:** Individual activity

**Time allocated:** 20 minutes

**Instructions:** Instruct the students to conduct a post-climbing check using the post-climbing checklist as a guide.

**Correct answer:** The student should check every item listed in the checklist.

**Group review:** Review the checklist to ensure that the students did **not** miss any item on the checklist.

## Lesson Summary

### Review

It is important that you test a pole for damage and stability before climbing it. An unsafe pole can crack and cause injuries if you attempt to climb.

This lesson described the different types of tests used to check the suitability of a pole for climbing and explained how to handle defective poles.

It also described how to conduct pre- and post-climbing checks so that you are constantly aware of anything that may affect your climbing.

You should now be able to:

- Describe when poles need to be tested
- Test a pole for damage using the prod and sound tests
- Test a pole for stability using the handline test (all Verizon regions except the New England)
- Test a pole for stability using the pike pole test (New England region)
- Handling a defective pole using pole tags
- Perform pre- and post-climbing checks for climbing poles

### Next Steps

Now that you have completed this lesson, next you should proceed to the Climbing Stepped Poles lesson

### Additional Resources



REFERENCE

- Method & Procedure National Operations, Doc. No. 2002-00330-OSP Issue: A, Issue Date: 4-30-2002, "Verizon Procedure for Pre-Climbing Pole Inspection"
- Verizon Incident Prevention Plan Outside Plant Review Package #6, VZ SAF-100-006 Issue A, March 2003

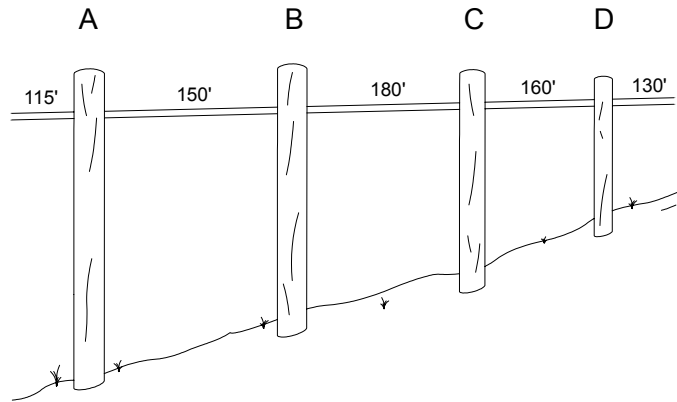
## Check-Point

1. Identify the poles that need special attention while being tested and then state the reason in the space provided.

**Answers:**

*Poles B and C*

*The span of cable between the poles is too long*

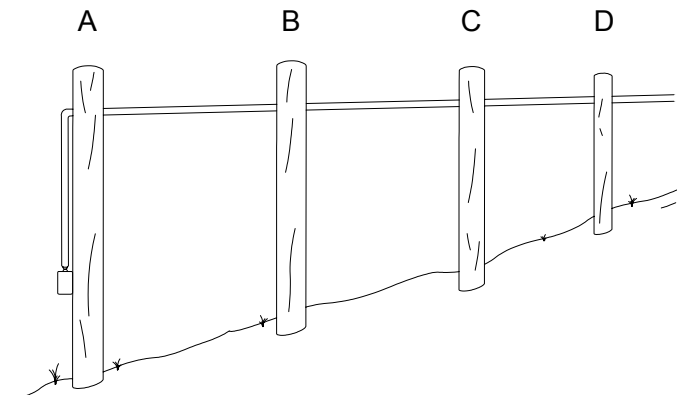


2. Identify the poles that need special attention while being tested and then state the reason in the space provided.

**Answers:**

*Pole A*

*Dead-end pole with no lateral support*



3. Use the prod test to examine the condition of the pole.

**Answers:**

*Make sure that every student has a pole to practice on. They should also have either a pole prod or a 5-inch blade or longer screwdriver.*

*They should:*

- *Remove dirt from around the pole*
- *Hold the pole prod or 5 inch screwdriver at a 45-degree angle and thrust the blade against the surface of the pole below the ground line*
- *Continue this until they completely circle the pole*

4. Check the condition of the pole above the ground line.

**Answers:**

*The student should conduct the prod and sound tests on poles that are free from decay.*

*Prod test:*

- *Remove dirt from around the pole*
- *Hold the pole prod or 5-inch blade or longer screwdriver at a 45-degree angle and thrust the blade against the surface of the pole below the ground line*
- *Continue this until you completely circle the pole*

*Sound test:*

- *Beginning at ground level, use a lineman hammer (weighing at least three pounds) to strike the pole sharply and squarely, and test all around the pole*
- *Continue testing all around the pole while moving up to a point as high as you can comfortably reach*

5. Determine the condition of the pole using either the handline or pike pole test.

**Answers:**

*The student should conduct the test on a pole that is free from defects.*

*They will need to perform the following steps:*

- *Loop the handline (3/8 inch or larger) around the pole about 12 feet above ground*
- *Pull rope at a 45-degree angle to the pole, rocking the pole back and forth*

*They should indicate that the pole is free from defects.*

6. Identify the tags to be used and tag locations when found a pole containing defects at ground line and on the upper portion but does **not** require immediate attention.

**Answers:**

*The student should tag the pole with two sets of B tags approximately six feet from the ground line.*

- *One set should be facing the road and have two B tags – one pointing up and one pointing down*
- *Another similar set should be facing the field and have two B tags – one pointing up and one pointing down*

7. Ask students to show the tags and how to place those tags on a pole that has defects at ground line and requires immediate attention.

**Answers:**

*The student should tag the pole with two C tags approximately six feet from the ground line.*

- *One tag should be facing the road with its arrow pointing downwards.*
- *The other tag should be facing the field and also pointing downwards.*

8. Perform a pre-climbing check.

**Answers:**

*The student should check the following:*

*Defects in equipment:*

- *Body belt*
- *Safety strap*
- *Climbers*
- *Eye protection*
- *Hardhat*
- *Safety footwear*
- *Detachable pole steps or a butt pole ladder*

*Area conditions:*

- *Traffic and pedestrians*
- *Ground debris*
- *Animals, insects*
- *Nearby obstructions*
- *Electrical hazards on poles containing power*

*Pole conditions:*

- *Deterioration*
- *Foreign attachments*
- *Improper hardware attachments (bent steps, etc.)*
- *Electrical hazards*
- *Limbs, vines, insects*
- *High side of pole, if leaning*

*Equipment selection:*

- *Personal Protective Equipment:*
  - *Eye protection*
  - *Hardhat*
  - *Hand Protection*
  - *Safety Footwear*
  - *Long sleeves and long pants*
- *Climbing Equipment:*
  - *Body belt and safety strap*
  - *Climbers (for unstepped poles)*
- *Testing equipment (as appropriate):*
  - *Insulating and leather protector gloves*
  - *Voltage detector*
  - *5-inch blade or longer screwdriver*
  - *Lineman or at least 3 pound hammer*

*Pole approach:*

- *Walking to pole area*
- *Transferring equipment*
- *Observing conditions*



9. Perform a post-climbing check.

**Answers:**

*The student should check the following:*

*Pole conditions:*

- *Changes that may have occurred since pre-climbing check*

*Area conditions:*

- *Tools and equipment*
- *Wire clippings*
- *Conditions observed in pre-climbing check*

*Equipment maintenance:*

- *Damage to climbers and equipment during use*
- *Damage to tools during use*

*Equipment storage:*

- *All items previously removed from truck*